

Application Number 10/004,536  
Responsive to Office Action mailed December 28, 2004

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

Claim 1 (Currently Amended): A routing component comprising:  
a first interface to communicate data with a first network interface;  
a second interface to communicate data with a second network interface, wherein the first interface and the second interface are integrated within a single integrated circuit; and  
an embedded memory within the integrated circuit to buffer data communicated in a first direction from the first interface to the second interface; and  
a memory interface to couple the integrated circuit to an external memory for buffering data communicated in a second direction from the second interface to the first interface.

Claim 2 (Currently Amended): The routing component of claim 1, further comprising:  
~~an interface to an external memory for buffering data communicated from the second interface to the first interface~~  
a first control unit to buffer in the embedded memory data that is received from the first interface and forwarded to the second interface; and  
a second control unit to buffer in the external memory data that is received from the second interface and forwarding to the first interface.

Claim 3 (Original): The routing component of claim 2, wherein the external memory has a greater storage capacity than the embedded memory.

Claim 4 (Original): The routing component of claim 1, wherein the first interface comprises a wide area network (WAN) interface.

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**Claim 5 (Original):** The routing component of claim 1, wherein the second interface comprises a switch fabric interface.

**Claim 6 (Original):** The routing component of claim 5, wherein the switch fabric interface communicates crossbar data.

**Claim 7 (Currently Amended):** The routing component of claim 1, wherein the routing component is implemented using ~~an a single~~ application specific integrated circuit (ASIC).

**Claim 8 (Original):** The routing component of claim 1, wherein the embedded memory comprises a random access memory (RAM).

**Claim 9 (Currently Amended):** A network element comprising:

    a first network interface to communicate data with a network;  
    a second network interface to communicate data with the network; and  
    ~~a router having an embedded memory to store data communicated using the second network interface.~~

a routing component formed in an integrated circuit, wherein the routing component has an embedded memory within the integrated circuit; and

a second memory external to the routing component,

wherein the routing component buffers data in the embedded memory that is communicated in a first direction from the first network interface to the second network interface, and

wherein the routing component buffers data in the second memory that is communicated in a second direction from the second network interface to the first network interface.

**Claim 10 Cancelled.**

**Claim 11 (Currently Amended):** The network element of claim ~~9~~10, wherein the second memory has a greater storage capacity than the embedded memory.

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Claim 12 (Currently Amended): The network element of claim 9, wherein the first network interface comprises and the second network interface comprise a wide area network (WAN) interfaces.

Claim 13 (Currently Amended): The network element of claim 9, ~~wherein the second network interface comprises further comprising a switch fabric coupling the routing component to a second routing component interface.~~

Claim 14 (Currently Amended): The network element of claim 13, wherein the switch fabric interface communicates crossbar data.

Claim 15 (Currently Amended): The network element of claim 9, wherein the ~~router routing component~~ is implemented using an application specific integrated circuit (ASIC).

Claim 16 (Original): The network element of claim 9, wherein the embedded memory comprises a random access memory (RAM).

Claim 17 (Original): The network element of claim 9, further comprising a second router having an embedded memory to store data communicated using the second network interface.

Claim 18 (Currently Amended): An integrated circuit (IC) comprising:  
a first interface to communicate data with a network;  
a second interface to communicate data with the network;  
an embedded memory internal to the IC to buffer data communicated in a first direction from the first interface to using the second interface; and  
an interface to a memory external to the IC for buffering data communicated in a second direction from the second interface to using the first interface.

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Claim 19 (Original): The IC of claim 18, wherein the memory external to the IC has a greater storage capacity than the embedded memory.

Claim 20 (Original): The IC of claim 18, wherein the first interface is coupled to a wide area network (WAN) interface.

Claim 21 (Original): The IC of claim 18, wherein the second interface is coupled to a switch fabric.

Claim 22 (Original): The IC of claim 21, wherein the switch fabric comprises a crossbar.

Claim 23 (Original): The IC of claim 18, wherein the embedded memory comprises a random access memory (RAM).

Claim 24 (Currently Amended): A router comprising:  
an integrated circuit (IC) comprising:  
a first interface to communicate data with a network;  
a second interface to communicate data with the network;  
an embedded memory to buffer data communicated in a first direction from the first interface to the second interface; and  
an interface to a memory external to the IC for buffering data communicated in a second direction from the second interface to the first interface.

Claim 25 (Original): The router of claim 24, wherein the memory external to the IC has a greater storage capacity than the embedded memory.

Claim 26 (Original): The router of claim 24, wherein the first interface is coupled to a wide area network (WAN) interface.

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Claim 27 (Original): The router of claim 24, wherein the second interface is coupled to a switch fabric.

Claim 28 (Original): The router of claim 26, wherein the switch fabric comprises a crossbar.

Claim 29 (Original): The router of claim 24, wherein the embedded memory comprises a random access memory (RAM).

Claim 30 (Currently Amended): A method for communicating data using a network router, the method comprising:

receiving inbound data from a first network interface via a first routing component;  
buffering the inbound data within an embedded memory internal to the first routing component;  
forwarding the inbound data from the first routing component to a second routing component via a switch;  
receiving outbound data with the first routing component from the switch;  
buffering the outbound data within a memory external to the first routing component; and  
forwarding the outbound data to the network interface.  
storing the data in a memory device external to the network router;  
selecting a route for transmitting the data; and  
storing the data in an embedded memory.

Claim 31 (Currently Amended): The method of claim 30, wherein the external memory external to the network router has a greater storage capacity than the embedded memory.

Claim 32 (Currently Amended): The method of claim 30, wherein the first network interface comprises a wide area network (WAN) interface.

Claim 33 Cancelled.

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**Claim 34 (Currently Amended):** The method of claim 33, wherein the switch fabric interface communicates crossbar data.

**Claim 35 (Currently Amended):** A routing arrangement comprising:

- a crossbar arrangement;
- a plurality of routing components coupled to the crossbar arrangement, at least one of the routing components comprising

  - a first interface to communicate data with a network;
  - a second interface to communicate data with the crossbar arrangement;
  - an embedded memory to buffer data communicated in a first direction from the first interface to with the crossbar arrangement; and
  - an external memory interface to a memory external to the routing device for buffering data communicated in a second direction from the crossbar arrangement to with the network.